

### IN THE CLAIMS:

All pending claims and their present status are produced below. Claims 6-10, 17, and 20 are amended herein.

1 6. (Currently amended) A method for performing variable time processes in parallel on  
2 a plurality of ordered incoming ~~entities~~ packets, on a plurality of processors, the  
3 method comprising:  
4 assigning each of the plurality of ordered incoming ~~entities~~ packets to one of the  
5 plurality of processors, the packets comprising at least a portion of a micro-  
6 flow;  
7 pre-processing each of the plurality of ordered incoming ~~entities to establish an order~~  
8 ~~of the plurality of ordered incoming entities~~ packets to determine whether  
9 processing on a previous packet is in progress, the previous packet comprising  
10 at least a portion of the micro-flow; and  
11 processing each of the plurality of ordered incoming ~~entities~~ packets on the  
12 ~~corresponding one a processor~~ of the plurality of processors to which ~~it the~~  
13 ordered incoming packet is assigned, in response to completion of processing  
14 of the previous packet.

1 7. (Currently amended) The method of claim 6, wherein the plurality of ordered  
2 incoming ~~entities~~ packets comprise a plurality of data packets in a network.

1 8. (Currently amended) The method of claim [[7]] 6, wherein the processing further  
2 comprises:  
3 extracting information from a header of each of the plurality of ordered incoming  
4 packets;  
5 hashing the extracted information for each of the ordered incoming packets;

6 storing the hashed information; and

7 responsive to receipt of a new packet ~~being received~~, comparing the hash of the

8 extracted information for the new packet with the stored information.

1 9. (Currently amended) The method of claim 6, wherein the assigning comprises:

2 selecting one of the plurality of processors which is free to process one of the

3 plurality of ordered incoming ~~entities~~ packets at the time that the one of the

4 plurality of ordered incoming ~~entities~~ packets is received.

1 10. (Currently amended) The method of claim 6, wherein the pre-processing further

2 comprises:

3 determining whether a first in the plurality of ordered incoming entities is currently

4 being processed at the time when a subsequent one of the plurality of ordered

5 incoming ~~entities~~ packets is received;

6 responsive to determining that the first in the plurality of ordered incoming ~~entities~~

7 packets is currently being processed:

8 not starting processing of the subsequent one of the plurality of ordered

9 incoming ~~entities~~ packets;

10 redetermining at a later time whether the first in the plurality of ordered

11 incoming ~~entities~~ packets is currently being processed; and

12 responsive to determining that the first in the plurality of ordered incoming

13 ~~entities~~ packets is not currently being processed, starting processing of

14 the subsequent one of the plurality of ordered incoming ~~entities~~

15 packets.

1 17. (~~Currently amended~~) A method ~~for performing variable time processes to process~~ in  
2 parallel on a plurality of processors, ~~on~~ a plurality of packets in a network which  
3 comprise a ~~plurality of flows~~ micro-flow, the method comprising:  
4 assigning each of the plurality of packets to one of the plurality of processors;  
5 determining whether a first packet in the plurality of packets comprising ~~one of the~~  
6 ~~plurality of flows~~ the micro-flow is currently being processed ~~at the time~~ when  
7 a subsequent ~~one of in~~ packet of the plurality of packets comprising the ~~one of~~  
8 ~~the plurality of flows~~ micro-flow is received;  
9 responsive to determining that the first packet in the plurality of packets is currently  
10 being processed:  
11 not starting processing of the subsequent ~~one~~ packet of the plurality of  
12 packets;  
13 ~~redetermining~~ at a later time determining whether the first packet in the  
14 plurality of packets is currently being processed;  
15 responsive to determining that the first packet in the plurality of packets is not  
16 currently being processed, starting processing of the subsequent ~~one~~  
17 packet of the plurality of packets; and  
18 processing each of the plurality of packets on ~~the corresponding one a~~  
19 processor of the plurality of processors to which it ~~is~~ the packet is  
20 assigned.

1 20. (~~Currently amended~~) An electronically readable medium storing a program for  
2 permitting a computer to perform a method ~~for performing variable time processes to~~  
3 process in parallel on a plurality of processors, ~~on~~ a plurality of packets in a network  
4 which comprise a ~~plurality of micro-flows~~ micro-flow, the method comprising:

5 assigning each of the plurality of packets to one of the plurality of processors;  
6 determining whether a first packet in the plurality of packets comprising ~~one of the~~  
7 ~~plurality of micro-flows~~ the micro-flow is currently being processed ~~at the~~  
8 ~~time~~ when a subsequent ~~one of~~ packet in the plurality of packets comprising  
9 the ~~one of the plurality of micro-flows~~ micro-flow is received;  
10 responsive to determining that the first packet in the plurality of packets is currently  
11 being processed:  
12 not starting processing of the subsequent ~~one~~ packet of the plurality of  
13 packets;  
14 redetermining at a later time whether the first packet in the plurality of packets  
15 is currently being processed;  
16 responsive to determining that the first packet in the plurality of packets is not  
17 currently being processed, starting processing of the subsequent ~~one~~  
18 packet of the plurality of packets; and  
19 processing each of the plurality of packets on ~~the corresponding one a~~  
20 processor of the plurality of processors to which it ~~is~~ the packet is  
21 assigned.